Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR section 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR section 122.22(b)(2)); and

c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR section 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR section 122.22(d).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 CFR section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for

an industry-specific waste stream under 40 CFR chapter 1, subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

   As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)

3. The San Diego Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR section 122.41(l)(6)(ii)(B).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR section 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR section 122.41(l)(1)(ii).

   The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
   (40 CFR section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 CFR section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by State and by NPDES data group [see 40 CFR section 127.2(c)]. USEPA will update and maintain this listing.
(40 CFR section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the San Diego Water Board as soon as they know or have reason to believe (40 CFR section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(1)):
    a. 100 micrograms per liter (µg/L) (40 CFR section 122.42(a)(1)(i));
    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(1)(ii));
    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(1)(iii)); or
    d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 CFR section 122.42(a)(2)):
    a. 500 µg/L (40 CFR section 122.42(a)(2)(i));
    b. 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(2)(ii));
    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (ROWD) (40 CFR section 122.42(a)(2)(iii)); or
    d. The level established by the San Diego Water Board in accordance with 40 CFR section 122.44(f). (40 CFR section 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority this MRP establishes conditions for Liquid Stone Holdings, LLC (Discharger) to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified effluent and receiving water monitoring locations. This MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

The purpose of this MRP is to determine and ensure compliance with effluent limitations and other requirements established in this Order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. This MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

Each monitoring section contains an introductory paragraph summarizing why the monitoring is needed and the key management questions the monitoring is designed to answer. In developing the list of key management questions, the San Diego Water Board considered four basic types of information for each question:

(1) Management Information Need – Why does the San Diego Water Board need to know the answer?

(2) Monitoring Criteria – What monitoring will be conducted for deriving an answer to the question?

(3) Expected Product – How should the answer be expressed and reported?

(4) Possible Management Actions – What actions will be potentially influenced by the answer?

The framework for this monitoring program has three components that comprise a range of spatial and temporal scales: 1. core monitoring, 2. regional monitoring, and 3. special studies.

1. Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limitations and/or impacts to receiving water quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2. Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. In the event that a regional monitoring effort takes place during the permit cycle in which this MRP does not specifically address regional monitoring, the San Diego Water Board may allow relief from aspects of core monitoring components in order to encourage participation pursuant to section V of this MRP.

3. Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often, they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in section II, Table E-1 and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to U.S. Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the CWA*, as amended, or unless other test procedures are specified in this Order and attachments thereof or otherwise specified by the San Diego Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the State Water Resource Control Board (State Water Board), Division of Drinking Water (DDW) or a laboratory approved by the San Diego Water Board. The laboratory must be accredited under the DDW Environmental Laboratory Accreditation Program (ELAP) to ensure the quality of analytical data used for regulatory purposes to meet the requirements of this Order. Additional information on ELAP can be accessed at http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml.

E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.

F. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices (i.e., no more than 12 months between calibrations for the flow measurement devises).

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The Discharger shall have a success rate equal to or greater than 80 percent.

H. Analysis for toxic pollutants, including chronic toxicity, with effluent limitations or performance goals based on water quality objectives and criteria of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) and the *Water Quality Control Plan, Ocean Waters of* California*, California Ocean Plan* (Ocean Plan) shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

II. MONITORING LOCATION

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	At a location downstream of any in-plant return flows and disinfection units, before combining with other wastewaters from the City of Escondido Industrial Brine Collection System (IBCS), other wastewaters in the Escondido Land Outfall (ELO) line, and/or other wastewater in the San Elijo Ocean Outfall (SEOO), where a representative sample can be obtained.

III. CORE MONITORING REQUIREMENTS

A. Influent Monitoring Requirements – Not Applicable

B. Effluent Monitoring Requirements

Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine and quantify contaminants and to demonstrate compliance with applicable effluent limitations, standards, and other requirements of this Order.

Effluent monitoring is necessary to address the following questions:

(1) Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?

(2) What is the mass of parameters that are discharged daily, monthly, or annually?

(3) Is the effluent concentration or mass changing over time?

(4) Is Stone Brewing Co. LLC (Facility) being properly operated and maintained to ensure compliance with the conditions of this Order?

The Discharger shall monitor the effluent at Monitoring Location EFF-001 as follows:

Table E-2. Effluent Monitoring (Monitoring Location EFF-001)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	million gallons per day (MGD)	Recorder/Totalizer	Continuous	--
Temperature	degrees Fahrenheit (°F)	Grab	2/Year	[2]
Total Dissolved Solids (TDS)	milligram per liter (mg/L)	24-hr Composite	1/Month	[2]
Oil and Grease	mg/L	Grab	1/Month[3]	[2]
Total Suspended Solids (TSS)	mg/L	24-hr Composite	1/Month[3]	[2]
Settleable Solids	milliliter per liter (ml/L)	Grab	1/Month	[2]
Turbidity	nephelometric turbidity unit (NTU)	24-hr Composite	1/Month	[2]
pH	standard units	Grab	1/Month	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	microgram per liter (µg/L)	24-hr Composite	2/Year[3]	[2]
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Chromium (VI), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[3]	[2]
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Cyanide, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2,5]
Chlorine, Total Residual	µg/L	Grab	2/Year[3,6]	[2]
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	2/Year[3]	[2]
Chronic Toxicity[1]	"Pass" / "Fail" (Test of Significant Toxicity)	24-hr Composite	2/Year	[7]
Phenolic Compounds (nonchlorinated)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Phenolic Compounds (chlorinated)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Endosulfa[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Endrin	µg/L	24-hr Composite	2/Year[3]	[2]
HCH (BHC)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Radioactivity	picocuries per liter (pCi/L)	24-hr Composite	2/Year	[2]
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	Grab	2/Year[3]	[2]
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	2/Year[3]	[2]
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	2/Year[3]	[2]
Chlorobenzene	µg/L	Grab	2/Year[3]	[2]
Chromium (III), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[3]	[2]
Di-n-butyl Phthalate	µg/L	24-hr Composite	2/Year[3]	[2]
Dichlorobenzenes[1]	µg/L	Grab	2/Year[3]	[2]
Diethyl Phthalate	µg/L	24-hr Composite	2/Year[3]	[2]
Dimethyl Phthalate	µg/L	24-hr Composite	2/Year[3]	[2]
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	2/Year[3]	[2]
2,4-dinitrophenol	µg/L	24-hr Composite	2/Year[3]	[2]
Ethylbenzene	µg/L	Grab	2/Year[3]	[2]
Fluoranthene	µg/L	24-hr Composite	2/Year[3]	[2]
Hexachlorocyclopentadiene	µg/L	24-hr Composite	2/Year[3]	[2]
Nitrobenzene	µg/L	24-hr Composite	2/Year[3]	[2]
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Toluene	µg/L	Grab	2/Year[3]	[2]
Tributyltin	µg/L	24-hr Composite	2/Year[3]	[2]
1,1,1-trichloroethane	µg/L	Grab	2/Year[3]	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	Grab	2/Year[3]	[2]
Aldrin	µg/L	24-hr Composite	2/Year[3]	[2]
Benzene	µg/L	Grab	2/Year[3]	[2]
Benzidine	µg/L	24-hr Composite	2/Year[3]	[2]
Beryllium, Total Recoverable	µg/L	24-hr Composite	2/Year[3]	[2]
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	2/Year[3]	[2]
Bis (2-ethlyhexyl) Phthalate	µg/L	24-hr Composite	2/Year[3]	[2]
Carbon Tetrachloride	µg/L	Grab	2/Year[3]	[2]
Chlordane[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Chlorodibromomethane (Dibromochloromethane)	µg/L	Grab	2/Year[3]	[2]
Chloroform	µg/L	Grab	2/Year[3]	[2]
Dichlorodiphenyltrichloroethane (DDT)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
1,4-dichlorobenzene	µg/L	Grab	2/Year[3]	[2]
3,3'-dichlorobenzidine	µg/L	24-hr Composite	2/Year[3]	[2]
1,2-dichloroethane	µg/L	Grab	2/Year[3]	[2]
1,1-dichloroethylene	µg/L	Grab	2/Year[3]	[2]
Dichlorobromomethane	µg/L	Grab	2/Year[3]	[2]
Dichloromethane (Methylene Chloride)	µg/L	Grab	2/Year[3]	[2]
1,3-dichloropropene (1,3-Dichloropropylenes)	µg/L	Grab	2/Year[3]	[2]
Dieldrin	µg/L	24-hr Composite	2/Year[3]	[2]
2,4-dinitrotoluene	µg/L	24-hr Composite	2/Year[3]	[2]
1,2-diphenylhydrazine	µg/L	24-hr Composite	2/Year[3]	[2]
Halomethanes[1]	µg/L	Grab	2/Year[3]	[2]
Heptachlor	µg/L	24-hr Composite	2/Year[3]	[2]
Heptachlor Epoxide	µg/L	24-hr Composite	2/Year[3]	[2]
Hexachlorobenzene	µg/L	24-hr Composite	2/Year[3]	[2]
Hexachlorobutadiene	µg/L	24-hr Composite	2/Year[3]	[2]
Hexachloroethane	µg/L	24-hr Composite	2/Year[3]	[2]
Isophorone	µg/L	24-hr Composite	2/Year[3]	[2]
N-nitrosodimethylamine	µg/L	24-hr Composite	2/Year[3]	[2]
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	2/Year[3]	[2]
N-nitrosodiphenylamine	µg/L	24-hr Composite	2/Year[3]	[2]
Polynuclear Aromatic Hydrocarbons (PAHs)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Polychlorinated Biphenyls (PCBs)[1]	µg/L	24-hr Composite	2/Year[3]	[2]
Tetrachlorodibenzodioxin (TCDD) equivalents[1]	µg/L	24-hr Composite	2/Year[3]	[2]
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year[3]	[2]
Tetrachloroethylene (Tetrachloroethene)	µg/L	Grab	2/Year[3]	[2]
Toxaphene	µg/L	24-hr Composite	2/Year[3]	[2]
Trichloroethylene	µg/L	Grab	2/Year[3]	[2]
1,1,2-trichloroethane	µg/L	Grab	2/Year[3]	[2]
2,4,6-trichlorophenol	µg/L	24-hr Composite	2/Year[3]	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Vinyl Chloride	µg/L	Grab	2/Year[3]	[2]

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. As required under 40 CFR part 136.
3. The Discharger shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
4. The Discharger may, at their option, apply this performance goal as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).
5. If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.
6. Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times and duration of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.
7. Applicable to chronic toxicity as specified in section VII.K of this Order and section III.C of this MRP (Attachment E).

C. Whole Effluent Toxicity (WET) Testing Requirements

The WET refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). The control of WET is one approach this Order uses to control the discharge of toxic pollutants. WET tests evaluate 1) the aggregate toxic effects of all chemicals in the effluent including additive, synergistic, or antagonistic toxicity effects; 2) the toxicity effects of unmeasured chemicals in the effluent; and 3) the variability in bioavailability of the chemicals in the effluent.

Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

(1) Does the effluent meet performance goal for toxicity thereby ensuring that water quality standards are achieved in the receiving water?

(2) If the effluent does not meet performance goal for toxicity, are unmeasured pollutants causing risk to aquatic life?

(3) If the effluent does not meet performance goal for toxicity, are pollutants in combinations causing risk to aquatic life?

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic IWC is calculated by dividing 100 percent by the dilution factor. The chronic toxicity IWC is 0.42 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. Sufficient sample volume of the effluent shall also be collected during accelerated monitoring for subsequent Toxicity Identification Evaluation (TIE) studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity >one part per thousand (ppt), the Discharger shall conduct the following chronic toxicity tests on effluent samples, at the Discharge IWC (0.42 percent effluent), in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01).

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*/sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0); or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection, or within 24 months of most recent screening, whichever is later. The Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis*, a second and third sample shall be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass," then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring. If only one species fails, then that species shall be used for routine monitoring. Likewise, if two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring.

Species sensitivity rescreening is required every 24 months. The Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

The species used during routine monitoring shall be the most sensitive species from the most recent species sensitivity screening.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent monitoring results for the chronic toxicity maximum daily performance goal.

5. Quality Assurance (QA) and Additional Requirements

The QA measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

a. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833- R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 and Appendix B, Table B-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail." This is a t-test (formally Student's t-test), a statistical analysis comparing two sets of replicate observations—in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances. The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response) × 100.

b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), the test should be declared invalid, then the Discharger must resample and re-test within 14 days of test termination.

c. Dilution water and control water, including brine controls, shall be 1-µm-filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the effects concentration at 25 percent (EC25).

e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of this MRP and the rationale is explained in the Fact Sheet (Attachment F).

6. Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan

The Discharger shall prepare and submit a copy of the Discharger's Initial Investigation TRE Work Plan to the San Diego Water Board for approval within 90 days of the effective date of this Order. If the San Diego Water Board does not disapprove the work plan within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989), or most current version, as guidance. At a minimum, the work plan must contain the provisions in Attachment I, *Generic Toxicity*

Reduction Evaluation (TRE) Work Plan. The Initial Investigation TRE Work Plan shall describe the steps that the Discharger intends to follow if toxicity is detected, and shall include, at a minimum:

a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;

b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and

c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

7. Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail"

The Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware of this result, the Discharger shall notify the San Diego Water Board and implement an accelerated monitoring schedule within five calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the San Diego Water Board is notified and the first of four accelerated monitoring tests is initiated within seven calendar days of the Discharger becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IWC), conducted at approximately two-week intervals, over an eight-week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass," the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail," the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail" and "Percent Effect") for chronic toxicity tests shall be reported as effluent monitoring results for the chronic toxicity performance goal.

8. TRE Process

During the TRE Process, minimum effluent monitoring shall resume and TST results ("Pass" or "Fail" and "Percent Effect") for chronic toxicity tests shall be reported as effluent monitoring results for the chronic toxicity performance goal.

a. Preparation and Implementation of Detailed TRE Work Plan. The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989), or most current version, as guidance. and, within 15 days of receiving validated results, submit to the San Diego Water Board a Detailed TRE Work Plan, which shall follow the Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the San Diego Water Board:

i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity;

ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and

iii. A schedule for these actions, progress reports, and the final report.

b. TIE Implementation. The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

d. The Discharger shall continue to conduct the minimum effluent monitoring while the TRE and/or TIE process is taking place. Additional accelerated monitoring and TRE Work Plans are not required once a TRE is begun.

e. The San Diego Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if routine monitoring finds there is no longer toxicity.

f. The San Diego Water Board may consider the results of any TRE/TIE studies in an enforcement action.

9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, and shall include:

a. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the monitoring period shall be reported on the SMR due date specified in Table E-3.

b. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

c. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

d. TRE/TIE results. The San Diego Water Board shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TRE/TIE report, the Discharger shall provide status updates in the monthly SMRs, indicating which TRE/TIE steps are underway and which steps have been completed.

e. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

f. Graphical plots clearly showing the laboratory's performance for the reference toxicant for the previous 20 tests and the laboratory's performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.

g. Any additional quality assurance/quality control (QA/QC) documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.

D. Land Discharge Monitoring Requirements – Not Applicable

E. Recycling Monitoring Requirements – Not Applicable

IV. RECEIVING WATER MONITORING REQUIREMENTS

The City of Escondido and San Elijo Joint Powers Authority conduct receiving water monitoring for their individual discharges to the San Elijo Ocean Outfall[1]. The receiving water monitoring is designed to measure the effects of the SEOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The receiving water monitoring data may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority as they become available on the State Water Board website at http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportEsmrAtGlanceServlet?inCommand=reset.

V. REGIONAL MONITORING REQUIREMENTS

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large-scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through inter-calibration exercise. The coalitions implementing regional monitoring enable sharing of technical resources, trained personnel, and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger is encouraged to participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved

[1] Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*
Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters.

A. Kelp bed canopy monitoring requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

(1) What is the maximum areal extent of the coastal kelp bed canopies each year?

(2) What is the variability of the coastal kelp bed canopy over time?

(3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?

(4) Are new coastal kelp beds forming?

The City of Escondido and San Elijo Joint Powers Authority participate, for their individual discharges to the San Elijo Ocean Outfall, in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to variety of influences. Kelp bed canopy data obtained from the regional monitoring program may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the findings and conclusions of each annual Status of the Kelp Beds Report as it becomes available on the Southern California Bight Regional Aerial Kelp Surveys website at http://kelp.sccwrp.org/reports.html.

B. Southern California Bight Monitoring Program Participation Requirements

The Discharger may be requested by the San Diego Water Board to participate in the Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP), or any other coordinated regional monitoring effort named by the San Diego Water Board, pursuant to Water Code sections 13267 and 13383, and 40 CFR section 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

VI. SPECIAL STUDIES REQUIREMENTS – NOT APPLICABLE

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. The Discharger shall report all instances of noncompliance not reported under sections V.E, V.G, and V.H of the Standard Provisions (Attachment D) at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website at <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned or unplanned service interruption for electronic submittal. SMRs must be signed and certified as required by section V of the Standards Provisions (Attachment D). The Discharger shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision for training and supervision of individuals on how to prepare and submit SMRs.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IV. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-3. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling.
Weekly (1/Week)	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling.
Monthly (1/Month)	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
Semiannually (2/Year)	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1

4. Section III.B of the Standard Provisions (Attachment D) includes the standard provisions for test procedures. USEPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. For the purposes of the NPDES program, when more than one test procedure is approved under 40 CFR part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv). Both 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv) apply to the selection of a sufficiently sensitive analytical method for the purposes of monitoring and reporting under NPDES permits, including review of permit applications. A USEPA-approved analytical method is sufficiently sensitive where:

   a. The Minimum Level (reported ML, also known as the Reporting Level, or RL) is at or below both the level of the applicable water quality criterion/objective and this Order limitation for the measured pollutant or pollutant parameter; or

b. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

c. The method has the lowest ML of the USEPA-approved analytical methods where none of the USEPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.

d. The MLs in Ocean Plan Appendix II remain applicable. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the Ocean Plan. For instance, USEPA Method 1631E for mercury is not currently listed in Ocean Plan Appendix II, but it is published with an ML of 0.5 nanograms per liter (ng/L) that makes it a sufficiently sensitive analytical method. Similarly, USEPA Method 245.7 for mercury is published with an ML of 5 ng/L.

5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported ML (or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

7. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

8. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

The DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports (eSMR) module eSMR 2.5 or any upgraded version. Electronic DMRs submittal shall be in addition to electronic SMR submittal. Information about electronic DMRs submittal is available at the DMR website at:
http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

D. Other Reports

The following reports are required under sections III and VI of this MRP. The reports must be signed and certified as required by section V of the Standards Provisions (Attachment D).

Table E-4. Other Reports

Report	Location of requirement	Due Date
Report of Waste Discharge (for reissuance)	Section VI.A.2.a	No later than 180 days before the Order expiration date[1]
Initial Investigation TRE Work Plan	Section III.C.6 of this MRP	Within 90 days after adoption of this Order

1. Submit in person or by mail to the San Diego Water Board office (2375 Northside Drive. Suite 100, San Diego, CA 92108) or by email at SanDiego@waterboards.ca.gov.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "Not Applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "Not Applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	9 000002380
Discharger	Liquid Stone Holdings, LLC
Name of Facility	Stone Brewing Co. LLC
Facility Address	1999 Citracado Parkway Escondido, CA 92029 San Diego County
Facility Contact, Title and Phone	Tim Suydam, Director of Brewing Operations, West Coast (760) 294-7899 ext. 1451
Authorized Persons to Sign and Submit Reports	Tim Suydam, Director of Brewing Operations, West Coast Joel Grosser, Vice President of Operations Charlie Arnold, Water Operations Supervisor
Mailing Address	Same as Facility Address
Billing Address	2120 Harmony Grove Road Escondido, CA 92029 San Diego County Attention: Charlie Arnold
Type of Facility	Industrial, SIC Code No. 2082
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	B
Pretreatment Program	No
Recycling Requirements	None
Facility Permitted Flow	0.10 million gallons per day (MGD)
Facility Design Flow	0.10 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. Liquid Stone Holdings, LLC (Discharger) is the owner and operator of Stone Brewing Co. LLC (Facility), a brewery located at 1999 Citracado Parkway, Escondido.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges brine wastewater and cooling tower blowdown to the Pacific Ocean, a water of the United States (U.S.). The Discharger was previously regulated by Order No. R9-2012-0006, as amended by Order No. R9-2014-0097, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109258 adopted on April 1, 2012 and expired on March 31, 2017. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on September 26, 2016. The application was deemed complete on October 25, 2016. A site visit was conducted on March 1, 2018 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

D. Regulations at title 40 of the Code of Federal Regulations (40 CFR) section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment and Controls

The Facility is a brewery located at 1999 Citracado Parkway in Escondido, California. The Facility includes an industrial waste pretreatment and water reclamation system that currently treats up to 90,000 gallons per day (GPD) of the following industrial wastewater produced at the Facility to a level suitable for reuse within the Facility:

- Residual liquid waste from the brewing process
- Wash down and cleaning of brewery tanks (clean-in-place)
- Wash water from bottling/canning/kegging operations
- General housekeeping hose water

The industrial waste pretreatment and water reclamation system includes a sump, a 250-micron rotary drum screen, an equalization tank, three aeration tanks, membrane bioreactors (MBRs) with a 0.04-micron rating, ultra-filtered tank (reverse osmosis (RO) feed water), and two RO units. Compressed air from the rotary and turbo blowers is supplied to the aeration tanks and MBRs. The brine wastewater from the RO units is discharged to the brine tank, along with the brine wastewater from the potable water treatment system and cooling tower blowdown.

From the ultra-filtered tank, the RO feed water can either bypass the RO units to the brine tank, or can be sent to the City of Escondido's sanitary sewer system. However, to the extent possible, the Facility maximizes use of the RO units to provide reclaimed water for reuse within the Facility.

RO permeate water is further treated with sodium hypochlorite for disinfection, sodium hydroxide for pH adjustment to maintain stability for reuse within the Facility for brewery housekeeping, boiler supply, and cooling tower supply. Water reuse within the Facility is not subject to any requirements from the San Diego Water Board.

The City of Escondido owns and operates the City of Escondido's Industrial Brine Collection System (IBCS) and issued the Discharger Industrial User Discharge (IUD) Permit No. 11017 to discharge to the ICBS. Up to 100,000 GPD of the brine wastewater and cooling tower

blowdown is discharged to the IBCS, which connects to the Escondido Land Outfall (ELO), the San Elijo Ocean Outfall (SEOO), and the Pacific Ocean.

All brewery waste streams are kept separate from its domestic wastewater system. The Facility's domestic wastewater is discharged directly to the City of Escondido's sanitary sewer system through a separate plumbing and lateral connection. Under emergency conditions, industrial wastewater can also be diverted from the sump by gravity conditions to the City of Escondido's sanitary sewer system.

Brine wastewater generated by the RO system has an average total dissolved solids (TDS) of 2,400 mg/L, biochemical oxygen demand (BOD) ranging from 2 to 7 mg/L, and total suspended solids (TSS) ranging from 2 to 7 mg/L.

The industrial waste pretreatment and water reclamation system generates solid waste from the rotary screen and the aeration tanks. The solids from the aeration tanks are dewatered by a volute dewatering press. All the solid wastes are transferred to a composting facility by Escondido Disposal Company.

B. Discharge Points and Receiving Waters

The flow from the Facility, Palomar Energy Center[1], and the City of Escondido's proposed Membrane Filtration/Reverse Osmosis (MFRO) Facility[2] commingle in the IBCS. All flows in the IBCS are either conveyed directly into the ELO or directed to a 2-million-gallon storage pond at the City of Escondido's Hale Avenue Resource Recovery Facility (HARRF) for controlled release into the ELO at a later time. Treated wastewater from HARRF[2] and wastes from the IBCS flows through the ELO approximately 14 miles in a southwesterly direction, generally following Escondido Creek, to the SEOO.

The SEOO is co-owned by the San Elijo Joint Powers Authority and the City of Escondido, which own 21 percent and 79 percent of the capacity, respectively. The SEOO begins at a point approximately 2,200 feet south of the mouth of the San Elijo Lagoon, where treated wastewater from the HARRF and wastes from the IBCS merge with treated wastewater from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility[3]. The SEOO extends into the Pacific Ocean, where the inshore end of a diffuser is located approximately 6,800 feet offshore at a depth of approximately 110 feet. The diffuser, which is collinear with the outfall, is approximately 1,200 feet in length and extends to a depth of approximately 148 feet. The terminus of the diffuser (i.e., Discharge Point No. 001) is located at Latitude 33° 00' 21" North and Longitude 117° 18' 09" West.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order No. R9-2012-0006 for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order No. R9-2012-0006 are as follows:

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[1] Discharges from the San Diego Gas and Electric Company, Palomar Energy Center are regulated by separate WDRs, Order No. R9-2018-0062, NPDES No. CA0109215, *Waste Discharge Requirements for San Diego Gas and Electric Company, Palomar Energy Center Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

[2] Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

[3] Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

Table F-2. Historic Effluent Limitations and Monitoring Data[1]

Parameter	Units	Effluent Limitation			Monitoring Data (From June 2013 to December 2017)		
		Average Monthly	Average Weekly	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Instantaneous Maximum Discharge
Oil and Grease	milligram per litter (mg/L)	25	40	75	3.1	3.1	3.1
	pounds per day (lbs/day)	20.9	33.4	62.6	2.6	2.6	2.6
TSS	mg/L	60	--	--	22.4	--	--
	lbs/day	50.0	--	--	18.6	--	--
Settleable Solids	milliliters per liter (ml/L)	1.0	1.5	3.0	0.1	0.1	0.1
Turbidity	nephelometric turbidity unit (NTU)	75	100	225	3.6	3.6	3.6
pH	standard units (SU)	--	--	6.0 to 9.0[2]	--	--	5.59 to 7.87[2]

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Minimum and maximum value.

D. Compliance Summary

As of December 2017, the Discharger has reported the following violations of Order No. R9-2012-0006.

1. Order No. R9-2012-0006, Attachment E, section V, table 3 requires annual monitoring for chronic toxicity at Monitoring Location EFF-001. The Discharger failed to monitor for chronic toxicity during calendar year 2013. The San Diego Water Board issued a staff enforcement letter for this violation on April 18, 2014.
2. On September 2, 2015, the pH was below the instantaneous minimum limitation of 6.0 SU with a reported value of 5.6 SU at Monitoring Location EFF-001. The Discharger reported that it believes the onsite pH analysis of the grab sample that resulted in 5.6 SU was a blip. According to the continuous inline pH probe, the pH never fell below 7.25. Also, 21 hours after the onsite pH analysis, the labs result from Test America Analytical was 8.23 SU. The San Diego Water Board issued a staff enforcement letter for this violation on June 21, 2016.
3. On October 25, 2016, the flow exceeded the maximum daily discharge limitation of 0.10 MGD with a reported value of 0.18 MGD. The Discharger reported that this exceedance was an error due to a change in operating conditions at the Facility. To ensure the error does not occur again, the reset for the flow totalizer was changed from a periodic routine to continuous routine to avoid missing the reset at midnight. Also, handshakes were installed from the PLC to the SCADA system verifying daily resets were successful. Since the programming changes, there has not been a repeat of the problem. No staff enforcement letter was sent out for this violation.

E. Planned Changes

The Discharger is evaluating installation of anaerobic digesters to treat all waste. The digesters would generate biogas to fuel boilers or generate electricity. The effluent from the anaerobic digester process would be polished by the aeration tanks.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (Water Code, commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the U.S. at the discharge location described in Table 2 of this Order subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of chapter 3 of CEQA, (commencing with section 21100) of division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Resources Control Board (State Water Board). Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are summarized in Table F-4:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact recreation (REC-2); commercial and sport fishing (COMM); preservation of biological habitats of special significance (BIOL); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); marine habitat (MAR); aquaculture (AQUA); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); and shellfish harvesting (SHELL).

In order to protect the beneficial uses, the Basin Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, and 2015. The State Water Board adopted the latest amendment on May 6, 2015, and it became effective on January 28, 2016. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized in Table F-5:

Table F-4. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	IND; REC-1; REC-2, including aesthetic enjoyment; NAV; COMM; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; MAR; fish migration; fish spawning; and SHELL.

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

4. **Antidegradation Policy.** Federal regulation at 40 CFR section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California.* Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits. These Anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 United States Code (U.S.C.) sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limits, and other requirements to protect the beneficial uses of waters of the State, including protecting rare and endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on the CWA section 303(d) List

In July 2015, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to CWA section 303(d), which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations (TBELs) for point sources. The CWA section 303(d) list includes 0.49 miles of the Pacific Ocean shoreline

within the San Elijo Hydrologic Subarea (HAS), at Cardiff State Beach and San Elijo State Beach, and San Elijo Lagoon as impaired for indicator bacteria. The 303(d) list also includes the Pacific Ocean Shoreline, San Elijo HSA, at Cardiff State Beach at the parking lot entrance as impaired for trash. The CWA section 303(d) list also includes the San Elijo Lagoon as impaired for eutrophic conditions and sedimentation/siltation.

Several total maximum daily loads (TMDLs) for bacteria indicators have been adopted and approved within San Diego Region; however, these TMDLs did not contain applicable wasteload allocations for the discharges from the SEOO. Nonetheless, this Order implements receiving water objectives for bacterial indicators.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the U.S. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. R9-2012-0006 as described below. Discharges from the Facility to surface waters in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facility to land in violation of prohibitions contained in this Order are violations of the Water Code and are not subject to third party lawsuits under the CWA because the Water Code does not contain provisions allowing third party lawsuits.

1. Prohibition III.A of Order No. R9-2012-0006 is one of the discharge prohibitions from the Ocean Plan, which is included in this Order as Discharge Prohibition III.B and incorporated in Attachment G.
2. Prohibition III.B of Order No. R9-2012-0006 has been carried over to this Order as Prohibition III.A, clearly defining what types of discharges are prohibited.
3. Prohibitions III.C and III.D of Order No. R9-2012-0006 have been carried over to this Order as Prohibitions III.B and III.C, to include discharge prohibitions of the Ocean Plan and Basin Plan, respectively.
4. Prohibition III.E of Order No. R9-2012-0006 has been included as a flow effluent limitation (0.10 MGD) in Table 4 of this Order.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR section 122.44 require that permits include conditions meeting applicable technology based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

The CWA requires that TBELs be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New Source Performance Standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of best professional judgment (BPJ) to derive TBELs on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the San Diego Water Board must consider specific factors outlined in 40 CFR section 125.3. The USEPA has not developed ELGs for the discharge authorized by this Order.

Section III.B of the Ocean Plan prescribes effluent limitations that apply to industrial discharges for which ELGs have not been established pursuant to sections 301, 302, 304, or 306 of the CWA. Specifically, section III.B.3 of the Ocean Plan states that compliance with Table 2 effluent limitations shall be the minimum level of treatment acceptable under the Ocean Plan, and shall define reasonable treatment and waste control technology.

In compliance with 40 CFR sections 122.45(f)(1) and 423.15, mass-based limitations have also been established in this Order for conventional, nonconventional, and toxic pollutants, with some exceptions. Section 122.45(f)(2) of 40 CFR allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass-based limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature.

Mass-based effluent limitations were calculated using the following equation:
lbs/day = flow (MGD) x pollutant concentration (mg/L) x 8.34

2. Applicable TBELs

a. **Ocean Plan.** The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Therefore, the discharge of wastewater to the Pacific Ocean at Discharge Point No. 001 is subject to the Ocean Plan.

The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 2 of the Ocean Plan establishes TBELs for industrial discharges for which ELGs have not been established (including the discharge of brine wastewaters and cooling tower blowdown from Discharge Point No. 001). Consistent with Order No. R9-2012-0006, numeric effluent limitations based on Table 2 of the Ocean Plan have been established in this Order for discharges from the Facility to Discharge Point No. 001 (Monitoring Location EFF-001).

Table 2 of the Ocean Plan requires dischargers to, as an average monthly, achieve a percent removal of 75 percent for suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L. Because the effluent from the Facility will not undergo treatment for removal of TSS, a TSS average monthly effluent limitation (AMEL) of 60 mg/L has been established for the Facility discharge in accordance with Table 2 of the Ocean Plan, and percent removal requirements have not been included in this Order.

The TBELs from the Ocean Plan are summarized in Table F-6:

Table F-5. TBELs Based on Table 2 of the Ocean Plan for Discharge Point No. 001[1]

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	75
	lbs/day	20.9	33.4	--	62.6
TSS	mg/L	60[2]	--	--	--
	% Removal	75[2]	--	--	--
Settleable Solids	ml/L	1.0	1.5	--	3.0
Turbidity	NTU	75	100	--	225
pH	standard units	--	--	6.0	9.0

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Table 2 of the Ocean Plan requires that the Discharger shall, as a monthly average, remove 75 percent of suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L.

b. **Effluent Flow.** Order No. R9-2012-0006 contained a discharge prohibition which prohibited the discharge from the Facility through the SEOO at Discharge Point No. 001 in excess of 0.10 MGD. This flow prohibition is being carried over as an effluent limitation.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a),

supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean Plan, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and Ocean Plan and any other applicable State water quality control plans and policies.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters.

a. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: "The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials."

The Basin Plan states, "The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally."

b. **Ocean Plan.** The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity.

Table 1 of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.[4]

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health. These have been applied as average monthly performance goals.[4]

iv. Daily maximum objectives for acute and chronic toxicity.

[4] Section 122.45(d) of 40 CFR states, "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as: (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works."

3. Determining the Need for WQBELs

The San Diego Water Board evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters, based on water quality objectives in Table 1 of the Ocean Plan. The evaluation was performed in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the *Ocean Plan Reasonable Potential Analysis (RPA) Amendment* that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probably initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The implementation provisions for Table 1 of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.

In 2005, the San Diego Water Board, with assistance from the State Water Board, had determined the minimum initial dilution factor (Dm) for the SEOO to be 237 parts seawater to 1 part wastewater (237:1), using the USEPA approved computer modeling application Visual Plumes with the USEPA Modeling Application Visual Plumes (UM3) model. The Dm of 237:1 was used in Order No. R9-2012-0006. The NPDES Orders for the City of Escondido and the San Elijo Joint Powers Authority contains special study requirements for plume tracking.[5] This information will be useful for evaluating whether the dilution credit established in 2005 is still applicable and appropriate. The San Diego Water Board may re-assess the dilution credit if the discharges to the SEOO changes effluent quality discharged at Discharge Point No. 001. Until this information is available

[5] See pages E-30 through E-33, Attachment E of Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.* https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2018/R9-2018-0002.pdf
See pages E-28 through E-30, Attachment E of Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.* https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2018/R9-2018-0003.pdf

and evaluated, the San Diego Water Board is retaining the Dm of 237:1 from Order No. R9-2012-0006.

Conventional pollutants were not considered as part of the RPA. TBELs for these pollutants are included in this Order as described in section IV.B of this Fact Sheet.

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the parameters listed in the Table F-7. For parameters that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were derived using effluent limitation determination procedures described below and are referred to in this Order as "performance goals". A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these parameters as stated in the Monitoring and Reporting Program (MRP, Attachment E) in order to gather data for use in reasonable potential analyses for future permit reissuances.

Order No. R9-2012-0006 required the Discharger to monitor for the parameters in Table 1 of the Ocean Plan once in five years, with the exception of chronic toxicity which was required annually. Thus, only one sampling event from August 5, 2016 was used in the RPA, with the exception of chronic toxicity. A minimum probable initial dilution of 237:1 was considered in this evaluation.

A summary of the RPA results is provided in Table F-7:

Table F-6. RPA Results Summary[1]

Parameter	Units	n[2]	MEC[3,4]	Most Stringent Criteria	Background	RPA Endpoint[5]
Arsenic, Total Recoverable	µg/L	1	1.5	8[6]	3[7]	3
Cadmium, Total Recoverable	µg/L	1	<0.5	1[6]	0	3
Chromium (IV), Total Recoverable	µg/L	1	<0.25	2[6]	0	3
Copper, Total Recoverable	µg/L	1	48	3[6]	2[7]	3
Lead, Total Recoverable	µg/L	1	<1.0	2[6]	0	3
Mercury, Total Recoverable	µg/L	1	<0.1	0.04[6]	0.0005[7]	3
Nickel, Total Recoverable	µg/L	1	47	5[6]	0	3
Selenium, Total Recoverable	µg/L	1	1.8	15[6]	0	3
Silver, Total Recoverable	µg/L	1	<1.0	0.7[6]	0.16[7]	3
Zinc, Total Recoverable	µg/L	1	110	20[6]	8[7]	3
Cyanide, Total	µg/L	1	3.8	1[6]	0	3
Total Residual Chlorine	µg/L	1	<100	2[6]	0	3
Ammonia	µg/L	1	<100	600[6]	0	3
Acute Toxicity[8]	TUa	--	--	0.3[9]	0	--
Chronic Toxicity[1]	toxic units chronic (TUc)	11	<100	1[9]	0	3
Phenolic Compounds[1]	µg/L	1	<50	30[6]	0	3
Chlorinated Phenolics[1]	µg/L	1	<14	1[6]	0	3
Endosulfan[1]	µg/L	1	<0.0088	0.009[6]	0	3
Endrin	µg/L	1	<0.0022	0.002[6]	0	3
HCH (BHC)[1]	µg/L	1	<0.014	0.004[6]	0	3
Radioactivity	picocuries per liter (pCi/L)	1	50.1	[10]	0	3
Acrolein	µg/L	1	<2.5	220[11]	0	3
Antimony, Total Recoverable	µg/L	1	<1.0	1,200[11]	0	3
Bis(2-chloroethoxyl) methane	µg/L	1	<0.87	4.4[11]	0	3
Bis(2-chloroisopropyl) ether	µg/L	1	<0.87	1,200[11]	0	3
Chlorobenzene	µg/L	1	<0.25	570[11]	0	3

Parameter	Units	n[2]	MEC[3,4]	Most Stringent Criteria	Background	RPA Endpoint[5]
Chromium (III), Total Recoverable	µg/L	1	3.4	190,000[11]	0	3
Di-n-butyl phthalate	µg/L	1	<4.3	3,500[11]	0	3
Dichlorobenzenes[1]	µg/L	1	<0.50	5,100[11]	0	3
Diethyl phthalate	µg/L	1	<2.2	33,000[11]	0	3
Dimethyl phthalate	µg/L	1	<1.1	820,000[11]	0	3
4,6-Dinitro-2-methylphenol	µg/L	1	<8.7	220[11]	0	3
2,4-Dinitrophenol	µg/L	1	<8.7	4.0[11]	0	3
Ethylbenzene	µg/L	1	<0.25	4,100[11]	0	3
Fluoranthene	µg/L	1	<0.87	15[11]	0	3
Hexachlorocyclopentadiene	µg/L	1	<8.7	58[11]	0	3
Nitrobenzene	µg/L	1	<2.2	4.9[11]	0	3
Thallium, Total Recoverable	µg/L	1	<1.0	2[11]	0	3
Toluene	µg/L	1	<0.25	85,000[11]	0	3
Tributyltin	µg/L	1	<0.047	0.0014[11]	0	3
1,1,1-Trichloroethane	µg/L	1	<0.25	540,000[11]	0	3
Acrylonitrile	µg/L	1	<1.0	0.10[11]	0	3
Aldrin	µg/L	1	<0.0016	0.000022[11]	0	3
Benzene	µg/L	1	<0.25	5.9[11]	0	3
Benzidine	µg/L	1	<22	0.000069[11]	0	3
Beryllium, Total Recoverable	µg/L	1	<0.5	0.033[11]	0	3
Bis(2-chloroethyl) ether	µg/L	1	<0.87	0.045[11]	0	3
Bis(2-ethylhexyl) phthalate	µg/L	1	<8.7	3.5[11]	0	3
Carbon tetrachloride	µg/L	1	<0.25	0.90[11]	0	3
Chlordane[1]	µg/L	1	<0.087	0.000023[11]	0	3
Chlorodibromomethane	µg/L	1	3.6	8.6[11]	0	3
Chloroform	µg/L	1	5.3	130[11]	0	3
Dichlorodiphenyltrichloroethane (DDT)[1]	µg/L	1	<0.078	0.00017[11]	0	3
1,4-Dichlorobenzene	µg/L	1	<0.25	18[11]	0	3
3,3-Dichlorobenzidine	µg/L	1	<8.7	0.0081[11]	0	3
1,2-Dichloroethane	µg/L	1	<0.25	28[11]	0	3
1,1-Dichloroethylene	µg/L	1	<0.25	0.9[11]	0	3
Dichlorobromomethane	µg/L	1	4.7	6.2[11]	0	3
Dichloromethane	µg/L	1	<0.88	450[11]	0	3
1,3-Dichloropropene	µg/L	1	<0.25	8.9[11]	0	3
Dieldrin	µg/L	1	<0.0022	0.00004[11]	0	3
2,4-Dinitrotoluene	µg/L	1	<8.7	2.6[11]	0	3
1,2-Diphenylhydrazine	µg/L	1	<2.2	0.16[11]	0	3
Halomethanes[1]	µg/L	1	<1.5	130[11]	0	3
Heptachlor	µg/L	1	<0.0033	0.00005[11]	0	3
Heptachlor Epoxide	µg/L	1	<0.0027	0.00002[11]	0	3
Hexachlorobenzene	µg/L	1	<2.2	0.00021[11]	0	3
Hexachlorobutadiene	µg/L	1	<0.25	14[11]	0	3
Hexachloroethane	µg/L	1	<0.5	2.5[11]	0	3
Isophorone	µg/L	1	<2.2	730[11]	0	3
N-nitrosodimethylamine	µg/L	1	<4.3	7.3[11]	0	3
N-nitrosodi-N-propylamine	µg/L	1	<4.3	0.38[11]	0	3
N-nitrosodiphenylamine	µg/L	1	<2.2	2.5[11]	0	3
Polynuclear Aromatic Hydrocarbons (PAHs)[1]	µg/L	1	<36	0.0088[11]	0	3
Polychlorinated Biphenyls (PCBs)[1]	µg/L	1	<1.9	0.000019[11]	0	3
Tetrachlorodibenzodioxin (TCDD) equivalents[1]	µg/L	1	<2.1E-06	0.0000000039[11]	0	3
1,1,2,2-Tetrachoroethane	µg/L	1	<0.25	2.3[11]	0	3
Tetrachloroethylene	µg/L	1	<0.25	2.0[11]	0	3
Toxaphene	µg/L	1	<0.27	0.00021[11]	0	3
Trichloroethylene	µg/L	1	<0.25	27[11]	0	3
1,1,2-Trichloroethane	µg/L	1	<0.25	9.4[11]	0	3